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20 December 1965

MEMORANDUM FOR: Ceputy for Field Activities, OSA

SUBJECT : [] Commander's Report - November 1965

It is suggested that the following comments be sent
[] concerning subject report:

Reference Paragraph IV, LOGISTICS: Noted.

Reference Paragraph V, MAINTENANCE: (Auto-Pilot)

Since submission of the Commander's Report all aircraft have been restricted from auto-pilot flight pending resolution of reported problems. Detailed examination of the system has disclosed a number of dual gyro platforms with unacceptable precession characteristics. Each of the platforms examined fell within current specifications for serviceability. Gyro drift specifications have therefore been reduced in tolerance and the entire platform made a 250 hour time change item.

Pitch oscillation excursions of the auto-pilot have increased at approximately twice the rate of roll oscillations. This is understandable in view of the fact that there are three times as many possibilities of pitch axis deviation. Two of these sources are in the platform and the third is the mach sensor. At least part of the latter source deviations are attributed to the pilot-static sensing variations that may be provided the mach sensor. In order to assure the best possible source of pilot-static information to this sensor, separate sources are being supplied.

The [] Auto-Pilot has proven to be a reliable basic system during the past year of operation. However, as a result of the loss of 352 and the present series of excursions it is advisable to provide further protection to the pilot and aircraft in the form of a "rate limit logic" package. This unit will effectively prevent the acceptance of 'hard-over' type signals by the auto-pilot. In the event such a signal is received, that axis will be disconnected and the pilot given an audible and visual signal.

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Tech data associated with the auto-pilot program has also been found to be deficient in the area of changes required in setting-up the auto-pilot for J-75 powered aircraft vs J-57 models. Additionally, the present specifications for both organizational and field level testing of components requires review to assure standards compatible with our mission.

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[Redacted]
Acting Chief, Materiel Division
OSA-DD/S&T

MD/OSA, [Redacted]

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